Appln. No.: 10/718,556

Office Action dated October 28, 2004 Amendment dated February 28, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-20. (Cancelled)

Claim 21. (Currently Amended) A multi-stroke fluid cylinder comprising:

a) a first positioning system comprising a cylindrical housing having a plurality of

fluid openings and containing having a plurality of movable moveable pistons for

moving a positioning member having a piston rod a preselected distance, each

said moveable piston comprising at least one slot extending in the direction of

movement of the pistons and a channel along its face for delivering fluid from

said fluid openings in said cylindrical housing to between adjacent pistons, and a

plurality of fluid channels for delivering a fluid between respective adjacent

pistons of said first positioning system; and

b) a second positioning system including:

i) at least one moveable piston for moving the positioning member a

preselected distance, said at least one moveable piston of said second

positioning system being independently moveable relative to said pistons

of said first positioning system; and

ii) at least one fluid supply member for introducing a fluid at a first pressure

against said at least one piston of said second positioning system, said at

least one fluid supply member of said second positioning system

extending through at least one piston of said first positioning system.

22. (Currently Amended) The multi-stroke cylinder according to claim 21 wherein said-first

positioning system includes a cylindrical housing containing said plurality of first positioning

Appln. No.: 10/718,556

Office Action dated October 28, 2004

Amendment dated February 28, 2005

system pistons, said cylindrical housing having a plurality of fluid openings, each said opening

of said cylindrical housing is being in fluid communication with the slot of an opening in a

respective one of said first positioning system pistons.

23. (Cancelled).

24. (Original) The multi-stroke cylinder according to claim 22 wherein said cylindrical housing

includes an inner wall and an outer wall; and each of said first positioning system pistons

includes a seal for engaging the inner wall of said cylindrical housing for preventing the passage

of fluid therebetween.

25. (Currently Amended) The multi-stroke cylinder according to claim 22 wherein said second

positioning system includes a cylinder containing said plurality of at least one second positioning

system piston pistons, at least a portion of said second positioning system cylinder being

positioned within said cylindrical housing of said first positioning system.

26. (Original) The multi-stroke cylinder according to claim 25 wherein each said piston of said

second positioning system includes a seal for engaging an inner surface of said cylinder.

27. (Currently Amended) The multi-stroke cylinder according to claim 21 further comprising at

<u>least one wherein each said</u> stroke limiting member includes including a fluid inlet through

which fluid can be introduced into a respective one of said at least one fluid supply member

members.

Page 3 of 11

Appln. No.: 10/718,556

Office Action dated October 28, 2004

Amendment dated February 28, 2005

28. (Currently Amended) The multi-stroke cylinder according to claim 27 wherein said at least

one fluid supply member comprises an elongated tube members are concentric tubular members.

29. (Currently Amended) The multi-stroke cylinder according to claim 27 wherein said second

positioning system comprises a plurality of moveable pistons and said at least one fluid supply

member comprises a plurality of fluid supply members include comprised of a plurality of

concentrically positioned tubular members that each extend between a respective one of said

stroke limiting members and a respective one of said second positioning system pistons so that

each tubular member forms a fluid channel between the fluid inlet of a respective one of said

stroke limiting members and a respective one of said second positioning system pistons.

30. (Original) The multi-stroke cylinder according to claim 29 wherein said second positioning

system pistons each include at least two parts secured to one another with a terminal end of a

respective one of said tubular members being secured between said at least two parts.

31. (Original) The multi-stroke cylinder according to claim 30 wherein each said terminal end is

flared to fit between said at least two parts of a respective one of said second positioning system

pistons.

32. (Original) The multi-stroke cylinder according to claim 31 wherein said stroke limiting

members each have at least two parts; and each said tubular member includes a second terminal

end secured between said at least two parts of a respective one of said stroke limiting members.

Page 4 of 11

Appln. No.: 10/718,556

Office Action dated October 28, 2004

Amendment dated February 28, 2005

33. (Currently Amended) The multi-stroke cylinder according to claim 21 wherein further

including the positioning member, said positioning member has having a piston rod attached to

one of said pistons said at least one piston of said second positioning system adjacent said a head

assembly.

34. (Original) The multi-stroke cylinder according to claim 33 wherein said piston rod extends

through said head assembly.

35. (Original) The multi-stroke cylinder according to claim 34 wherein one or more stroke

limiting shafts are secured to the piston of said second positioning system adjacent said piston to

which said piston rod is attached; and said limiting shafts extend through said piston to which the

piston rod is attached.

36. (Original) The multi-stroke cylinder according to claim 21 wherein said first positioning

system includes a plurality of rods contacting said second positioning system for imparting

movement thereto.

37. (Original) The multi-stroke cylinder according to claim 21 wherein said pistons of said first

positioning system are each tethered to at least one immediately adjacent piston.

Claims 38-51. (Cancelled)

Page 5 of 11

Appln. No.: 10/718,556

b)

Office Action dated October 28, 2004 Amendment dated February 28, 2005

52. (Currently Amended) A multi-stroke fluid cylinder comprising:

a) a cylindrical housing having an inner wall including a plurality of spaced

openings for delivering fluid at predetermined locations within said housing and an outer-wall;

a head assembly positioned proximate one end of said housing a fluid introduction

plate positioned at a first end of said housing, said fluid introduction plate comprising a plurality

of fluid introduction openings through which fluid can enter said multi-stroke cylinder, each said

fluid introduction opening of said plate being in fluid communication with a respective one of

said openings in said inner wall of said housing; and

c) a positioning system comprising:

i) a plurality of movable pistons located within said housing for moving a piston

rod a preselected distance, said pistons each having a length that extends

substantially parallel to the length of the cylindrical housing; and

ii) a plurality of fluid supply members for introducing a fluid between adjacent

pistons, said-fluid supply members having different lengths and extending

parallel to the length of the moveable pistons; and

iii ii) an additional a fluid supply and tethering member including a hollow

cylindrical portion member extending within said housing and through a

center of a plurality of said moveable pistons within said housing for

delivering the fluid between two of said pistons.

Claims 53-60. (Cancelled)

61. (Previously Presented) The multi-stroke fluid cylinder of claim 21 further comprising a

plurality of tethering members securing together respective adjacent pistons of the first

Page 6 of 11

Appln. No.: 10/718,556

Office Action dated October 28, 2004

Amendment dated February 28, 2005

positioning system so that the movement between adjacent pistons of said first positioning

system is limited.

62. (Previously Presented) The multi-stroke fluid cylinder of claim 52 further comprising a

plurality of tethering members securing together respective adjacent ones of said pistons so that

the movement between the respective adjacent ones of said pistons is limited.

63. (New) The multi-stroke fluid cylinder of claim 52 wherein said fluid supply and tethering

member includes openings for delivering fluid between two of said pistons proximate a second

end of said housing.

64. (New) The multi-stroke fluid cylinder of claim 52 further comprising a plurality of fluid

supply members for introducing a fluid between adjacent pistons, said fluid supply members

having different fluid delivery lengths.

65. (New) The multi-stroke fluid cylinder of claim 64 wherein the fluid supply members each

extend from said plate along the housing to a respective one of the openings in the inner wall of

said housing.

66. (New) A multi-stroke fluid cylinder comprising:

a) a housing comprising an inner elongated wall including a plurality of spaced

openings for delivering fluid at predetermined locations within said housing;

b) a fluid introduction plate positioned at a first end of said housing, said fluid

introduction plate comprising a plurality of fluid introduction openings through which fluid can

Page 7 of 11

Appln. No.: 10/718,556

Office Action dated October 28, 2004

Amendment dated February 28, 2005

enter said multi-stroke cylinder, each said fluid introduction opening of said plate being in fluid

communication with a respective one of said openings in said inner wall of said housing; and

c) a positioning system comprising a plurality of moveable pistons located within

said housing for moving an elongated member at a second end of said housing a preselected

distance, and a plurality of tethering members securing together respective adjacent ones of said

moveable pistons to limit movement between the respective adjacent ones of said pistons.

67. (New) The multi-stroke fluid cylinder of claim 66 further comprising a plurality of fluid

supply members each extending from said plate along the housing to a respective one of the

openings in the inner wall of said housing.

68. (New) The multi-stroke fluid cylinder of claim 67 wherein said fluid supply members each

have different fluid communication lengths.